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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,289	12/20/2001	Ichiro Bekku	930011-2028	1810

7590 01/09/2003

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EXAMINER

THORNTON, YVETTE C

ART UNIT	PAPER NUMBER
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1752

5

DATE MAILED: 01/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/027,289

Applicant(s)

BEKKU ET AL.

Examiner

Yvette C. Thornton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-3 and 6-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/548,952.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

This is written in reference to application number 10/027289 filed on December 20, 2001, which is a continuation of application number 09/548,952, now US 6,413,693.

Response to Amendment

1. Claims 1-3 and 6-8 are currently pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-3 and 6-8 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a conductive layer formed by method such as sputtering, ion plating or electron beam deposition, does not reasonably provide enablement for the use of vacuum deposition as set forth in the instant claims. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. The specification teaches that the conductive layer can be formed by know methods such as sputtering, ion plating or electron beam deposition (spec. pg. 8, l. 3-4). It is well known in the art that vacuum deposition, ion plating, ion beam deposition are all types of physical vapor deposition methods (see US 6,500,704 B1, c. 17, l. 10-15). However, the applicant does not have support in the instant specification to claim the use of vacuum deposition as a coating method.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claims 1-3 and 6-8 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the specific resistance is $3.0 \times 10^{-4} \Omega \cdot \text{cm}$ or lower when the substrate is heated to a temperature of 150 degrees C or higher (see spec. pg. 2, l. 4-7).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yukinobu (US 5,411,792 A) in view of the applicant's own disclosure and Jean (US 6,265,051 A). Yukinobu teaches a transparent conductive substrate comprising a transparent overcoat layer formed on a base plate member and a transparent conductive film, which is formed on the overcoat layer. The said conductive film contains ultra-fine particles of indium-tin oxide (see abstract). Yukinobu teaches a method wherein a base board is coated with a coating layer and an overcoat layer and bonded to a light transmitting base plate member using an overcoat liquid and/or a bonding agent. The base board is then peeled from

the base plate member. The base board can be selected from a glass plate, a metal plate, a ceramic plate, etc (c. 3, l. 54-56). Specifically embodiment fourteen exemplifies a method of forming a transparent conductive substrate comprising (1) coated a polyimide varnish onto a soda-lime glass plate; (2) forming a transparent conductive film by applying a coating of ultra-fine ITO particles and a thermosetting resin binder, drying and calcinating the said coating; (3) then coating the overcoat liquid 3 containing the UV setting resin; and (4) bonding the form element to a PET film selected as the base plate (c. 12, l. 20-42 and c. 10, l. 45-65). Yukinobu teaches that since the adhesion between the base board and the polyimide film is weak, the polyimide layer is peeled off from the interface. It is the examiner's position that the taught glass plate meets the limitation of a glass substrate, which is superior in heat resistance to the plastic material. The PET base plate meets the limitation of a plastic material. The polyimide film constitutes a peelable film while the taught overcoat layer meets the limitation of a protective film made of an organic resin. Yukinobu teaches that the transparent conductive film has a specific resistance of $5 \times 10^{-2} \Omega \cdot \text{cm}$ or lower (c. 2, l. 27-31). It is the examiner's position that ITO would inherently have a specific resistance of $3.0 \times 10^{-4} \Omega \cdot \text{cm}$ or lower when the substrate is heated to a temperature of 150 degrees C or higher. This position is based on the applicant's own disclosure when teaches ITO as a preferred material for the claimed conductive layer (spec. pg. 2, l. 1-7 and pg. 8, l. 1-12).

Embodiment fourteen of the said reference however fails to explicitly discuss the use of an adhesive layer formed on the taught overcoat layer. Yukinobu teaches a method wherein a base board is coated with a coating layer and an overcoat layer and bonded to a light transmitting base plate member using an overcoat liquid and/or a bonding agent. The

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base board is then peeled from the base plate member (c. 2, l. 62-c. 3, l. 15). It is the examiner's position that would have been obvious to one of ordinary skill in the art in light of such a teaching, to use a bonding agent to affix the base plate member to the overcoat layer. The said bonding agent constitutes an adhesive layer as claimed by the applicant.

Yukinobu teaches that the transparent conductive ink is applied to the based by methods such as wire bar coating, the doctor blade coating method, the roller coating method or a similar method (c. 4, l. 3-19). Yukinobu fails to explicitly discuss the use of a vacuum deposition method to coat the said conductive ink. Jean (US '051) teaches the conductive ink may be coated on a substrate using a variety of methods known in the art. The said methods include brush, roller, spraying, dipping, masking, vacuum plating, vacuum deposition or any combination thereof. Jean teaches the vacuum deposition is well known and conventional in the art. One of ordinary skill in the art would have been motivated by the teachings of Yukinobu to use any conventional method known in the art, such as vacuum deposition to apply the taught conductive ink to a substrate.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yukinobu (US 5411792 A) in view of applicant's own disclosure and Jean (US 6,265,051 A) as applied to claims 1-3 and 7 above, and further in view of Sato et al. (US 5155005 A).

Yukinobu, as discussed above, teaches all the limitations of the instant claims except the presence of a color filter layer formed on the protective film as set forth in instant claim 6. Yukinobu teaches that the taught invention is related to a transparent conductive substrate, which is to be used as a transparent electrode, or the like for touch panels, liquid crystal display devices, electroluminescent display elements etc., (c. 1, l. 5-11). It is the

examiner's position that it is well-known and conventional in the art of liquid crystal display manufacturing that the structure of a liquid crystal color displayer (LCD) comprises a color filter, a protective film and a clear electrode in the at order. This position is based on the teachings of Sato which discloses that generally, the structure of a color LCD first multilayer construction comprising a first multilayer construction having provided on a transparent substrate such as a glass plate and laminated in the following order, a color filter, a protective film, a clear electrode, an insulating film and an orientation film (c. 1, l. 11-33). It would have been obvious to one of ordinary skill in the art, as it is well known and supported by Sato, to incorporate a color filter between the taught base plate having a bonding agent and overcoat layer of Yukinobu in order to make the taught element capable of being used in liquid crystal display devices.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yukinobu (US 5411792 A) in view of applicant's own disclosure and Jean (US 6,265,051 A) as applied to claims 1-3 and 7 above, and further in view of Oka (US 5,747,152 A). Yukinobu, as discussed above, exemplifies the use of thermo-setting and UV-setting resins as suitable overcoat liquids (c. 7, l. 45-61). Yokinobu however fails to teach a hardness value for the said overcoat liquids. It is the examiner's position that after the taught heating step of Yokinobu, the taught resins form a fully crosslinked layer. One of ordinary skill in the art would expect that hardened resin layer would inherently have a hardness of H or more. This position is supported by the teachings of Oka ('152), which teaches a hard coat layer comprising a binder resin (i.e., thermosetting resin, etc). Oka teaches that in order to impart

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a hard property the thickness of the hard coat layer is not less than 0.5 μm and has a hardness not less than H as measured by JIS K5400 (c. 13, l. 22-34).

Response to Arguments

10. Applicant's arguments filed November 4, 2002 have been fully considered but they are not persuasive. Applicants provide arguments that Yukinobu's film exhibits a specific resistance between $6 \times 10^{-3} \Omega\text{cm}$ and $5 \times 10^{-2} \Omega\text{cm}$. It is the examiner's position that the ITO film of Yukinobu would inherently have a specific resistance of $3.0 \times 10^{-4} \Omega\text{cm}$ or lower when the substrate is heated to a temperature of 150 degrees C or higher. This position is based on the applicant's own disclosure when teaches ITO as a preferred material for the claimed conductive layer (spec. pg. 2, l. 1-7 and pg. 8, l. 1-12).

11. Applicant's arguments with respect to the vacuum deposition limitation and dependent claims 6 and 8 have been considered but are of little moment in view of the new ground(s) of rejection.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

13. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee

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pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action.

In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yvette C. Thornton whose telephone number is 703-305-0589. The examiner can normally be reached on Monday-Thursday 8-6:30.

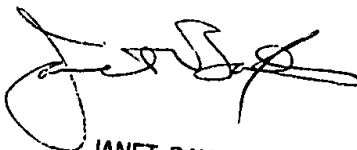
15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet C. Baxter can be reached on 703-308-2303. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

16. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1193.

****Please note that the examiner has recently changed her name from "Clarke" to "Thornton".****

yct

January 6, 2003


JANET BAXTER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER